STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING

JENNIFER M. GRANHOLM
GOVERNOR

STEVEN E. CHESTER
DIRECTOR

TO: Public Water and Wastewater Systems That Use Gas Chlorine

FROM: James K. Cleland, Chief, Lansing Operations Division, Water Bureau

DATE: August 27, 2007

SUBJECT: Gas Chlorine Reduction Contracts

Announcement

The Department of Environmental Quality (DEQ), Water Bureau, is pleased to announce that two contractors have been selected under a grant from the United States Department of Homeland Security (DHS) to implement the gas chlorine reduction project at public water and wastewater systems in Michigan. Prein & Newhof and CDM Michigan have been contracted to perform the gas chlorine reduction project at 88 public water systems and 19 wastewater treatment plants in two areas of the state (107 facilities).

Appendices

Under terms of the DHS grant, Michigan is divided into two areas – Urban Area Security Initiative (UASI) and non-UASI; generally, Southeast Michigan and the remaining portion of the state.

Appendix I (attached), entitled UASI, is the list of Southeast Michigan area facilities, also called the UASI, which includes the city of Detroit and the counties of Wayne, Oakland, Macomb, St. Clair, Washtenaw, and Monroe. CDM Michigan has been selected to perform the gas chlorine reduction project in the UASI area. The project manager for CDM Michigan is Janice Skadsen. Ms. Skadsen can be reached at 734-213-5444, Extension 22109, or skadsenjm@cdm.com.

Appendix II (attached), entitled Non-UASI, is the list of facilities in the non-UASI for the remainder of the state outside of the Southeast Michigan urban area. Prein & Newhof has been selected to perform the gas chlorine reduction initiative in the non-UASI area. The project manager for Prein & Newhof is Thomas Smith. Mr. Smith can be reached at 616-364-8491 or tsmith@preinnewhof.com.

Purpose

The purpose of this project is to provide public water and wastewater systems with information, cost-benefit analysis, contacts, support, presentations, documentation, and motivation to switch from gas chlorine to a safer alternative disinfectant.

Background

Public water/wastewater systems have historically used gas chlorine for disinfection purposes during treatment. While gas chlorine currently meets the disinfection needs of public water systems, it is dangerous and only a very small amount in the air is needed to kill a person. Indeed, gas chlorine was used as a chemical weapon in World War I.

While current standards and procedures provide for the safe use of gaseous chlorine, gaseous chlorine containers may become attractive targets for terrorism. Gaseous chlorine must be stored and transported under pressure, often in high concentrations and quantities requiring the use of 90-ton railcars. A study done by the United States Naval Research Lab found that within the first 30 minutes of a 300 pounds/second gas chlorine release in the area of downtown Washington, D.C., a 90-ton gas chlorine railcar could kill 100,000 people.

A number of alternatives exist to directly replace the use of gaseous chlorine, including ozone treatment, irradiation treatment, and sodium hypochlorite treatment. These alternatives may have not been considered for adoption before homeland security became a high priority. With the risk of transportation, handling and storage of gaseous chlorine, these replacements have become more attractive as well as more practical for public water/wastewater system use.

Project

The DEQ has engaged contractors for the purposes of planning, researching, compiling, and managing activities and information regarding alternatives to gas chlorine disinfection. The contractor will assist public water and wastewater system management over a two-year period in the review of the hazards of continued use of gas chlorine disinfectant. The contractor will visit the listed public water and wastewater systems and conduct telephone calls as a part of the contract.

Objective

The objective is to reduce the number of water and wastewater facilities using gaseous chlorine as a disinfectant.

Need

Public water and wastewater systems need to treat water in their communities in the best manner possible. Public safety and security indicates that public water and wastewater systems' management should perform a risk-benefit analysis for the continued use of gas chlorine.

Contractor Activities

The activities of the gas chlorine reduction contracts include site visits and conference calls with the facility representatives. Facility participation is voluntary; however, participation is recommended inasmuch as the risk-benefit analysis is important for your community.

Facilities Lists

The facilities using gas chlorine is always changing and it may be that your facility is incorrectly listed as using gas chlorine. It is also likely that additional facilities will be identified subsequently as using gaseous chlorine. Feel free to contact the DEQ project manager with any update you would like to provide. Inasmuch as the funding for this effort is limited, the number of facilities included had to be limited.

DEQ Project Manager

Robert Babcock, Security and Emergency Response Coordinator, Water Bureau, is the DEQ project manager and may be reached at 517-373-8566 or babcockr@michigan.gov.

If you have any questions or comments, please feel free to contact Mr. Babcock or you may contact me at 517-241-1287 or clelandj@michigan.gov.

Attachments
cc/att: Janice Skadsen, CDM Michigan
Thomas Smith, Prein & Newhof
Richard A. Powers, DEQ
Robert Babcock, DEQ